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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,845	03/04/2002	Julio A. Abusleme	108910-00057	4315

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 08/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/086,845

Applicant(s)

ABUSLEME ET AL.

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-17 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 112***

2. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 17 is rendered indefinite because it is unclear whether "the fillers" recited in the claim refer to the fillers of: layer A), layer B), layer A) or layer B), layer A) and layer B), or layer A) and/or layer B).

#### ***Claim Rejections - 35 USC § 103***

4. Claims 1-3, 6-9, and 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abusleme et al. (EP 1,038,914 A1) in view of Stoeppelmann (U.S. Patent 5,869,157).

Abusleme et al. teach a multilayer article that may be used as a fuel hose comprising a layer of a fluorinated polymer composition and a layer of hydrogenated polymer (paragraph 0022). Suitable hydrogenated polymers include thermoplastic polymers, such as polyamides (paragraph 0023). The fluorinated polymer composition comprises a copolymer of ethylene with tetrafluoroethylene and/or chlorotrifluoroethylene modified with an acrylic monomer, such as n-butylacrylate, that reads on the monomer of formula (a) in instant claim 1 (paragraphs 0009 and

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0011). The copolymer comprises 10-70 mole% ethylene, 30-90 mole% tetrafluoroethylene and/or chlorotrifluoroethylene, and 0.1-30 mole% of acrylic monomer (paragraph 0010). The copolymer may contain additives such as PTFE or silicates (paragraph 0015).

Regarding claim 9, the tube of Abusleme et al. is taken to be in the form of sheath-core fibers since it has inner (i.e. core) and outer (i.e. sheath) layers.

Abusleme et al. do not teach the presence of a layer comprising diamines and a polyamide having an amount of  $\text{-NH}_2$  end groups in the range of 40-300  $\mu\text{eq/g}$ . However, Abusleme et al. do teach a tube comprising a layer of a fluoropolymer and a layer of polyamide.

Stoeppelmann is directed to an adhesion promoter that bonds fluoropolymers to polyamides for use in multilayer tubes (column 2, lines 33-41). In one embodiment the adhesion promoter comprises a polyamide having an  $\text{-NH}_2$  end group concentration of 50  $\mu\text{eq/g}$  and a diamine, such as decyldiamine or dodecyldiamine (column 4, lines 1-14). In an alternative embodiment, the adhesion promoter comprises the diamine and a polyamide having an equal amount of  $\text{-NH}_2$  and  $\text{-COOH}$  end groups (column 4, lines 20-26). The amount of  $\text{-NH}_2$  groups in this alternative embodiment should be about 35  $\mu\text{eq/g}$  (total number of end groups =  $\text{-NH}_2$  end groups +  $\text{-COOH}$  end groups = 20  $\mu\text{eq/g}$  + 50  $\mu\text{eq/g}$  = 70  $\mu\text{eq/g}$ ; if the polymer has an equal amount of  $\text{-NH}_2$  and  $\text{-COOH}$  end groups it should have 35  $\mu\text{eq/g}$  of each). The diamine is present in an amount of 0.25-2 wt% (column 4, lines 12-14).

One of ordinary skill in the art would be motivated to use the adhesion promoter of Stoeppelmann in the article of Abusleme et al. to tightly adhere the fluoropolymer and polyamide layers together.

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5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abusleme et al. (EP 1,038,914 A1) in view of Stoeppelmann (U.S. Patent 5,869,157) as applied to claim 1 above, and further in view of Krause et al. (U.S. Patent 5,958,532).

Abusleme et al. taken in view of Stoeppelmann teach all the limitations of claim 10, as outlined above, except for the present of an inner layer that is made conductive by the incorporation of graphite and/or carbon black.

Krause et al. is directed to a fluoropolymer hose that may be used in a fuel line (column 1, lines 15-17). The hose comprises two fluoropolymers layers (column 2, lines 23-29). The inner fluoropolymer layer has electrostatic discharge resistance, allowing electrostatic charge generated during the flowing of fuel to be carried to the ground (column 3, lines 52-63). The most preferred fluoropolymer for the inner fluoropolymer layer is ETFE sold under the Tefzel<sup>®</sup> trademark (column 3, line 64-column 4, line 20). Tefzel<sup>®</sup> ETFE fluoropolymers are composed of about 40-70 % ethylene and 30-60% tetrafluoroethylene.

One of ordinary skill in the art would be motivated to add an inner fluoropolymer layer of ETFE having electrostatic discharge resistance to the fuel hose of Abusleme et al. to yield a safer product by allowing electrostatic charge generated during use to be carried to the ground.

***Allowable Subject Matter***

6. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reasons for indicating allowable subject matter was put forth in the Office action mailed 14 August 2003.

*Response to Arguments*

7. Applicant's arguments filed 13 June 2006 have been fully considered but they are not persuasive.

The applicants argue that the copolymer of Abusleme et al. always contains a crosslinking agent as an essentially feature to obtain adhesion to polyamides which are excluded from claim 1 due to the closed "consisting of" language of layer A).

This is not persuasive because Abusleme et al. do not require the presence of a crosslinker in the copolymer composition. While a crosslinker is required in the laminate as a whole, Abusleme et al. teach that the crosslinker may be present in the hydrogenated polymer to which the copolymer is adhered (see paragraph 0017). Since C<sub>10</sub> and C<sub>12</sub> diamines are suitable crosslinkers (see paragraph 0013), one skilled in the art would expect the presence of diamines in the layer adjacent the copolymer layer to provide for sufficient adhesion. Examples 6 and 7 demonstrate equivalent adhesion resulting from a layer of copolymer and crosslinker next to a layer of polyamide 12 compared to a layer of copolymer next to a layer of polyamide 12 and crosslinker.

The applicants argue that the presence of a diamine is an essential feature of Stoepplemann required to obtain adhesion in contrast to the invention of claim 1 in which a diamine is not an essential feature.

This is not persuasive because the claims as written do not exclude the presence of a diamine in the polyamide layer. The "consisting essentially of" language of claim B does not exclude the presence of a diamine because the addition of a diamine does not affect the basic and

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novel characteristics of the invention of claim 1 as evidenced by claim 2 which recites the presence of a diamine in layer B. That the invention as claimed does not require an essential feature of the prior art is not sufficient to overcome the rejection unless this essential feature is excluded from the claimed invention. The rejection is proper if the prior art reads on one embodiment of the claimed invention even if the prior art does not contemplate other embodiments.

Regarding claim 6, the applicants argue that the achievement of adhesion to the copolymer of A) without a crosslinking agent, annealing, or prolonged storage provides on of the novel and basic characteristics of present claim 6.

This is not persuasive because, while the transitional phrase "consisting essentially of" excludes any component that affects the novel and basic characteristics of the claimed invention, the steps of annealing or prolonged storage are not components that can be excluded from an article. Moreover, that adhesion may be obtained without a crosslinking agent is not an indication that the presence of a crosslinking agent would affect the novel and basic characteristics of the claimed invention. Rather, for the transitional phrase of layer A) in claim 6 to exclude the presence of a crosslinking agent, the addition of a crosslinking agent would have to affect the basic and novel characteristic of the invention such that the crosslinking agent would be prohibited from the claimed layer. Finally, as noted above Abusleme et al. do not require the presence of a crosslinking agent in the copolymer composition. Abusleme et al. explicitly teach that the crosslinking agent (which may be a C<sub>4</sub>-C<sub>20</sub> diamine) may be absent from the copolymer composition if it is present in an adjacent layer.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR



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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Ramsey Zacharia**  
**Primary Examiner**  
**Tech Center 1700**